



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0335; Directorate Identifier 2013-SW-021-AD]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation (Sikorsky) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for Sikorsky Model S-76A, S-76B, and S-76C helicopters with a main gearbox (MGB) installed that has undergone certain repairs. This proposed AD would require inspecting the MGB lower housing jet bores for leaks, paint or caulk blistering, and liner protrusion. This proposed AD is prompted by several reports of MGB low oil pressure warnings which were determined to be the result of unsecured jet bore liners that had protruded. The proposed actions are intended to prevent failure of the MGB from loss of oil, which could result in subsequent loss of control of the helicopter.

DATES: We must receive comments on this proposed AD by **[INSERT DATE 60**

DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- **Federal eRulemaking Docket:** Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- **Fax:** 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email sikorskywcs@sikorsky.com. You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

FOR FURTHER INFORMATION CONTACT: Jeffrey Lee, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts 01803; telephone (781) 238-7161; email jeffrey.lee@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

We have received four reports of protruding jet bore liners on Sikorsky S-76 helicopters with a MGB, part number (P/N) 76351-09000 series, 76351-09500 series, and 76351-09600 series, that have been repaired in accordance with Sikorsky Overhaul and Repair Instruction (ORI) No. 76350-065, Revisions A through E. Two of the protruding liners were discovered following low MGB oil pressure warnings, and two were discovered on the same MGB during maintenance. Subsequent investigation revealed that

during an overhaul of the MGB, the jet bore liner retaining pins were not adequately drilled into the liner, allowing the jet bore liner to move in the housing. The investigation determined that the ORI instructions did not adequately describe procedures and housing wall thickness limitations for installing the retaining pins. Movement of the jet bore liner into the housing allows oil to leak between the liner and the housing, possibly resulting in loss of oil in the MGB, which could result in failure of the MGB and subsequent loss of control of the helicopter. Sikorsky ORI No. 76350-065, Revision F, dated May 10, 2012 (ORI 76350-065F), resolves this condition by clarifying the wall thickness limitations, specifying additional retaining pins for some jet bores, and providing additional information to perform the repair procedures.

FAA's Determination

We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

Related Service Information

Sikorsky has issued Alert Service Bulletin (ASB) 76-66-50 Basic Issue, dated January 14, 2013 (ASB 76-66-50) for Model S-76A, S-76B, and S-76C helicopters with an MGB P/N 76351-09000 series, 76351-09500 series, and 76351-09600 series, which have been repaired in accordance with ORI number 76350-065. An MGB that has been repaired in accordance with ORI number 76350-065 may be marked TS-065-II, TS-065-IIA, TS-065-2, or TS-065-2A, depending on the ORI revision used. ASB 76-66-50 describes procedures for inspecting each MGB lower housing jet bore for leaking oil, paint or caulk blistering, and liner protrusion. If there is any liner protrusion or leaking oil

between the liner and the housing, the ASB requires replacing the MGB. If there is paint or caulk blistering, the ASB requires further inspecting for leaking oil by replacing the jet bore packing, performing a ground run of the main rotor for 30 minutes, and re-inspecting the jet bore for leaking oil.

Sikorsky ORI 76350-065F describes procedures for repairing the retaining ring groove areas of the MGB jet bores. ORI 76350-065F also contains clarified housing wall thickness limits for installing jet bore liners and procedures for installing additional retaining pins in the jet bore liners.

Proposed AD Requirements

This proposed AD would require, within 50 hours time-in-service (TIS), compliance with the inspection requirements of the manufacturer's service bulletin. If there is oil leakage or protrusion of a jet bore liner, this proposed AD would require replacing the MGB before further flight.

Within 1,500 hours TIS, this proposed AD would require replacing the MGB with an MGB that is not subject to the applicability of this proposed AD unless it has been repaired in accordance with ORI 76350-065F.

Differences between this Proposed AD and the Service Information

The ASB specifies compliance by a specific calendar date, while the compliance time in this proposed AD is in hours TIS. The ASB does not specify a terminating action for the recurring inspections of the MGB jet bores; the proposed AD would require installing an MGB not subject to the applicability of the proposed AD unless it has been repaired in accordance with ORI 76350-065F, which would be terminating action for the daily inspections. The service information also allows any affected MGB sent in for

repair or overhaul to be repaired in accordance with ORI 76350-065 Revision B or later; the proposed AD would not allow installation of an affected MGB unless it has been repaired in accordance with ORI 76350-065F, as this revision incorporates the clarified instructions and additional retaining pin requirements that would provide terminating action for the daily inspections.

Costs of Compliance

We estimate that this proposed AD would affect 53 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. At an average labor rate of \$85 per hour, inspecting the jet bore liners would require about 1.1 work-hours, for a cost per helicopter of \$94 and a total cost to US operators of \$4,982 per inspection cycle. If required, repairing a jet bore liner would require about 14 work-hours, and required parts would cost \$200, for a cost per helicopter of \$1,390. If required, replacing the MGB would require about 134 work-hours, and required parts would cost \$994,000, for a cost per helicopter of \$1,005,390.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This proposed regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by Reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Sikorsky Aircraft Corporation (Sikorsky): Docket No. FAA-2014-0335; Directorate Identifier 2013-SW-021-AD.

(a) Applicability

This AD applies to Sikorsky Model S-76A, S-76B, and S-76C helicopters with a main gearbox (MGB) part number (P/N) 76351-09000 series, 76351-09500 series, and 76351-09600 series installed that has been repaired in accordance with Sikorsky Overhaul and Repair Instruction (ORI) No. 76350-065, Revision A through Revision E, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as an unsecured MGB lower housing jet bore liner. This condition may cause the liner to move out of place, allowing oil to leak from the MGB, resulting in MGB failure and subsequent loss of control of the helicopter.

(c) Comments Due Date

We must receive comments by **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register]**.

(d) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(e) Required Action

(1) Within 50 hours time-in-service (TIS), and thereafter at intervals not to exceed 6 hours TIS, inspect each MGB lower housing jet bore (jet bore), as depicted in Figures 3 and 4 of Sikorsky S-76 Alert Service Bulletin 76-66-50, Basic Issue, dated January 14, 2013 (ASB 76-66-50), for liner protrusion or movement, paint or caulk blistering, or oil leakage.

(i) If there is any liner protrusion or movement, before further flight, replace the MGB with an MGB that has not been repaired in accordance with Sikorsky ORI No. 76350-065, Revision A through Revision E, unless it has been subsequently repaired in accordance with Sikorsky ORI No. 76350-065, Revision F, dated May 10, 2012.

(ii) If there is any oil leakage or paint or caulk blistering, inspect the jet bore for liner protrusion and perform a leakage check by following the Accomplishment Instructions, Paragraphs 3.C.(1) through 3.C.(6)(a), of ASB 76-66-50.

(iii) If any moisture or droplets of MGB oil are visible on a jet bore after accomplishing the leakage check specified in paragraph 3.C.(6)(a) of ASB 76-66-50, repeat paragraphs 3.C(4) through 3.C(6) of ASB 76-66-50. If any moisture or droplets of MGB oil are still visible, before further flight, replace the MGB with an MGB that has

not been repaired in accordance with Sikorsky ORI No. 76350-065, Revision A through Revision E, unless it has been subsequently repaired in accordance with Sikorsky ORI No. 76350-065, Revision F.

(2) Within 1500 hours TIS, replace the MGB with an MGB that has not been repaired in accordance with Sikorsky ORI No. 76350-065, Revision A through Revision E, unless it has been subsequently repaired in accordance with Sikorsky ORI No. 76350-065, Revision F. This is terminating action for the repetitive inspections required by this AD.

(f) Alternative Methods of Compliance (AMOC)

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Jeffrey Lee, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts 01803; telephone (781) 238-7161; email jeffrey.lee@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(h) Additional Information

Sikorsky Overhaul and Repair Instruction No. 76350-065, Revision F, dated May 10, 2012, which is not incorporated by reference, contains additional information about the subject of this AD. You may review copies of information at the FAA, Office of the

Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth
Texas 76137. For information on the availability of this material at the FAA, call (817)
222-5110.

(i) Subject

Joint Aircraft Service Component (JASC) Code: 6320: Main Rotor Gearbox.

Issued in Fort Worth, Texas, on May 21, 2014.

Lance T. Gant,

*Acting Directorate Manager, Rotorcraft Directorate,
Aircraft Certification Service.*

BILLING CODE 4910-13-P

[FR Doc. 2014-12738 Filed 05/30/2014 at 8:45 am; Publication Date: 06/02/2014]